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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/874,026

06/06/2001

Samuel Alan Johnson

6800

7590

03/22/2005

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EXAMINER

CONSILVIO, MARK J

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/874,026

Applicant(s)

JOHNSON, SAMUEL ALAN

Examiner

Mark Consilvio

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 December 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/06/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection. A reference with a previously indeterminate date has been determined to be appropriate as pertinent prior art. Specifically, the Shaw reference titled, "Cylindrical Bearing Equatorial Platforms," can be seen to have a copyright date on or before January 29<sup>th</sup>, 2000. The ATM Site reference includes the Shaw reference in a listing of copyrighted Internet publications in order of date. The ATM Site reference also includes a "Mirror Zone Calculator" reference dated January 29<sup>th</sup>, 2000 and is listed as a later reference than the Shaw reference. Therefore, the Shaw reference is appropriately read as prior art in accordance with 35 U.S.C. 102(b).

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 12/06/2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Drawings***

The drawings were received on 12/06/2004. These drawings are acceptable in regards to the previous objections but unacceptable in light of the new objections.

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The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the front bearing surface having fabricated into its surfaces varying radii segments of claim 4 and the fixed radii segments of claim 6 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the

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following is required: description of a front bearing surface having fabricated into its surfaces fixed radii segments.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 18 is rejected under 35 U.S.C. 102(b) as being anticipated by d' Autume (US Patent No. 5,062,699)

d' Autume discloses a tracking platform (34) for a telescope, comprising: a planar base (36); a plurality of rollers (40) attached to the planar base; the telescope platform supported by the plurality of rollers; wherein the telescope platform comprises a rear bearing block (38) comprising a plurality of continuous contours of differing radii in contact with at least two of the rollers (fig. 3).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw (Cylindrical Bearing Equatorial Platforms) in view of Equatorial Platform Meeting Notes (herein Odegard).

With respect to claims 1 and 6, Shaw discloses an equatorial tracking platform for a telescope, operable at a plurality of latitudes, said platform comprising: an essentially planar telescope platform, said platform having a top and bottom side, a platform base being situated below said platform top; said platform base having a plurality of adjustable engagement angle rolling bearing elements; said essentially planar telescope platform having attached to the bottom side a contoured rear bearing block; said essentially planar telescope platform also having a front bearing surface of fixed radius and adjustable angle; said front bearing surface and rear bearing block contacting said rolling bearing elements (Shaw p. 10-11). Also, Shaw discloses as an alternative, the front bearing block may have fabricated into its surfaces fixed radii segments. Shaw is silent to the rear bearing block having fabricated into its surfaces varying radii segments. However, Odegard reference teaches that the cylindrical bearing block of Shaw may be replaced by conical rear bearing block having fabricated into its surfaces varying radii segments. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Shaw and the Odegard reference and replace the cylindrical rear bearing block of Shaw with a conical rear bearing block having fabricated into its surfaces varying radii segments. One of ordinary skill in the art would have been motivated to do this so “the bearings would have large surfaces, and would be parallel to the ground, so there are no forces twisting the platform” (Odegard p. 3).

With respect to claim 2, Shaw discloses means of adjusting (via shimming) the angles of its rolling surfaces and contact rollers (p. 3).

With respect to claims 3, 5, and 7, Shaw discloses motors fitted to one or more of its rolling bearing elements (fig. 5).

With respect to claim 4, Shaw discloses all the same limitations of claim 1 as stated supra. Shaw is silent to the front and rear bearing block having fabricated into its surfaces varying radii segments. However, Odegard reference teaches that all the cylindrical bearing blocks of Shaw may be replaced by conical rear bearing blocks having fabricated into their surfaces varying radii segments (p. 3). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Shaw and the Odegard reference and replace the cylindrical front and rear bearing blocks of Shaw with conical front and rear bearing blocks having fabricated into its surfaces varying radii segments. One of ordinary skill in the art would have been motivated to do this so “the bearings would have large surfaces, and would be parallel to the ground, so there are no forces twisting the platform” (Odegard p. 3).

With respect to claim 8, the combination of Shaw and Odegard, as discussed supra, discloses a tracking platform for a telescope, comprising: a planar base; a plurality of bearing elements attached to the planar base; a roller mounted to each of the plurality of bearing elements; a telescope platform supported by the rollers; wherein the telescope platform comprises a rear bearing block comprising a plurality of contours of differing radii in contact with at least two of the rollers. The combination is silent to the bearing elements being adjustable hinges. Shaw discloses that the angle of the bearing elements must be adjusted if the

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platform is placed at a latitude different from the latitude of original construction. While the implementation of a hinged means of support is not specifically disclosed, a hinge is a simple, well known, and inexpensive means of support where angular adjustability is desired. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Shaw and the Odegard reference and provide hinges of the bearing elements to allow the angle of the bearing elements to be simply and quickly adjusted.

With respect to claim 9, the combination of Shaw and Odegard, as discussed supra, discloses or suggests all the limitations of claim 8. Also, Shaw discloses the contours of differing radii are defined as a function of contact angle between the rear bearing block and the at least two rollers (Shaw pp. 11-14).

With respect to claim 10, the combination of Shaw and Odegard, as discussed supra, discloses or suggests all the limitations of claim 8. Also the combination teaches a front bearing surface attached to the telescope platform and in contact with at least two more of the rollers. Further, one of ordinary skill would understand that adjustment to the bearing elements, as described above, would angle the platform relative to the base in an undesirable fashion (see e.g. Odegard fig. 5). Therefore, a skilled artisan would immediately recognize that a hinge would also be required to keep the platform level. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Shaw and the Odegard reference and further provide at least one additional adjustable hinge attached to the telescope platform and a front bearing surface to keep the telescope from tilting out of alignment.



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With respect to claims 11 and 16, the combination of Shaw and Odegard, as discussed supra, discloses or suggests all the limitations of claims 8 and 10. Further, one of ordinary skill would understand that adjustment to only some of the bearing elements, as described above, would angle the platform relative to the base in an undesirable fashion. Therefore, a skilled artisan would immediately recognize that hinges would also be required for each pair of bearing elements. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Shaw and the Odegard reference and further provide a front pair of hinges and a rear pair of hinges, wherein each of the pair of front and rear hinges are adjusted from vertical by an angle of displacement equal to a latitude angle of operation.

With respect to claims 12 and 17, the combination of Shaw and Odegard, as discussed supra, discloses or suggests all the limitations of claims 8, 10, and 11. Further, one of ordinary skill would understand that adjustment to the bearing elements, as described above, implies an angle of displacement between the front bearing block and the platform equal to 90 degrees plus the latitude angle of operation. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Shaw and the Odegard reference and further provide at least one additional adjustable hinge is adjusted to an angle of displacement equal to 90 degrees plus the latitude angle of operation to keep the platform level.

With respect to claim 13, the combination of Shaw and Odegard, as discussed supra, discloses or suggests all the limitations of claims 8 and 10. Also, the combination teaches the

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front bearing surface comprising a plurality of radii as a function of latitude contact angle (Shaw p. 14 and Odegard p. 3).

With respect to claim 14, the combination of Shaw and Odegard, as discussed supra, discloses or suggests all the limitations of claim 8. Further, Shaw shows at least one additional adjustable hinge is attached to a top surface of the telescope platform (fig. 3).

With respect to claim 15, the combination of Shaw and Odegard, as discussed supra, discloses or suggests all the limitations of claim 8. Also, Shaw discloses the plurality of contours of differing radii comprise a family of contours defined as a function of latitudinal angle according to the following equation:  $r_j = A + B * \sin(j)$  wherein  $A$  is a front bearing surface radius of the telescope platform,  $j$  is the latitude angle, and  $B$  is a spacing between the front bearing surface and the rear bearing block (Shaw pp. 12-14).

With respect to claims 18 and 19, the combination of Shaw and Odegard, as stated supra regarding claim 4, discloses a tracking platform for a telescope, comprising: a planar base; a plurality of bearing elements attached to the planar base; a roller mounted to each of the plurality of bearing elements; a telescope platform supported by the rollers; wherein the telescope platform comprises front and rear bearing blocks comprising a plurality of continuous contours of differing radii in contact with at least two of the rollers.

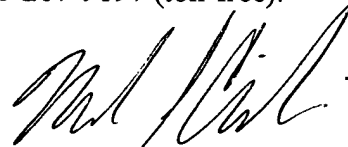
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Consilvio whose telephone number is (571) 272-2453. The examiner can normally be reached on Monday thru Friday, 8:30 am to 5:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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